

We claim:

1 1. A method of metered delivery of an insecticidal liquid in which small droplets of the
2 liquid at an ambient temperature are ejected from a bubble-jet type liquid emanator device.

1 2. The method of Claim 1, in which the bubble-jet liquid emanator device comprises a
2 reservoir for containing insecticidal liquid, means for communicating the liquid from the reservoir
3 into a capillary tube portion, and resistive heating element means for vaporizing a portion of the fluid
4 within the capillary tube portion, thereby producing droplets of insecticidal liquid.

1 3. The method of Claim 1 further comprising the step of vaporizing the insecticidal
2 liquid at a temperature at least 30°C below the decomposition temperature of the insecticide therein.

1 4. The method of Claim 1 in which a suitable gas is dissolved in the insecticidal liquid.

1 5. The method of Claim 1 comprising a subsequent step of imparting the droplets of
2 insecticidal liquid with a static charge.

1 6. The method of Claim 5 wherein the static charge is about -1×10^4 C/kg.

1 7. The method of Claim 1 in which the small droplets attain a volume medium
2 diameter of about 1 μm to about 7 μm .

1 8. A method of controlling insects comprising delivery of droplets of an insecticidal
2 liquid at an ambient temperature from a bubble-jet type liquid emanator device into the atmosphere.

1 9. The method of Claim 8 in which the dispersion of droplets of the insecticidal liquid
2 is produced by controllably vaporizing a volume of the insecticidal liquid contained within a bubble-
3 jet capillary tube portion of the emanator device.

1 10. The method of Claim 9 in which the step of controllably vaporizing the volume of
2 insecticidal liquid comprises activating an electronic circuit containing a resistive heating element
3 coupled to the capillary tube portion to cause an essentially instantaneous, temporary increase in
4 temperature of the capillary tube portion.

1 11. A system for dispersion of droplets of an insecticidal liquid into the atmosphere
2 comprising a bubble-jet liquid emanator device which produces droplets of insecticidal liquid at an
3 ambient temperature.

1 12. The system of Claim 11 in which the bubble-jet liquid emanator device comprises
2 means for vaporizing a volume of the insecticidal liquid within one or more capillary tube portions.

1 13. The system of Claim 13 in which the vaporizing means comprises a resistive
2 heating element.

1 14. The system of Claim 13 further comprising electronic control means for
2 controlling the resistive heating element.

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1 15. The system of Claim 14 in which the control means comprises an electrical switch
2 means.

1 16. The system of Claim 14 in which the control means comprises an timing circuit
2 means.

1 17. The system of Claim 11 further comprising reservoir means for containing a
2 volume of the insecticidal liquid.

1 18. An insecticidal liquid emanator device for controlling insects in an atmosphere, the
2 liquid emanator device comprising:
3 a reservoir for containing insecticidal fluid; and
4 bubble-jet means for producing a plurality of droplets of the insecticidal liquid at an ambient
5 temperature.

1 19. The liquid emanator device of Claim 18, in which the bubble-jet means comprises
2 a plurality of bubble-jet capillary tubes.

1 20. The liquid emanator device of Claim 18, in which the bubble-jet means comprises
2 a plurality of resistive heating elements coupled to the plurality of bubble-jet capillary tubes.

1 21. The liquid emanator device of Claim 18 further comprising means for imparting a
2 static electrical charge to the plurality of droplets of insecticidal liquid.